

# HEALTH, AND HOW TO PRESERVE IT.

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THE Manchester and Salford Sanitary Association has, for its general objects, the prevention of disease and the spread of the knowledge of sanitary laws amongst the people. Its committee meet regularly all the year round, and discuss subjects which are likely to improve the health of the community ; while it publishes weekly a list of the diseases under treatment in the many hospitals which exist around us. It provides every winter a course of lectures, which are intended to educate the mass of the people with regard to sanitary laws, or to teach them how to avoid disease by telling them how diseases are produced.

The lecture I have this night to deliver, is the second of this year's series, and the subject I have chosen is "Health, and how to preserve it." What I have got to say is to the busy working classes, who are most exposed to, and suffer most from, insanitary conditions, and amongst whom the death rate is highest.

You know what a stir has lately been made about educating the working classes ; you know also something of compulsory education, and I have no doubt that in a few years you will see what a change education can effect. The working classes form the back-bone of every country. It was by the working classes that Great Britain achieved her greatness, and if she would maintain the proud position which she now holds among the nations, she must place her working classes on a par with theirs as regards education. With education, civilisation advances, and we get great masses of people congregating together and forming large towns. Their habits become more artificial, their health is impaired, many die, a great many more live with disease lurking in their systems ; and, in a generation or two, these denizens of a great city are but poor representatives of their forefathers in regard

to health and bodily vigour. We find that there were in Manchester, in the year 1871, 33,000 children who died under five years of age. This is a lamentable fact, and many of you must know as well as I do, one great cause of this dreadful mortality among infants. There can be no doubt but that it is due to the system of nursing out children, rendered necessary by the fact that the mothers have to work in the mill, or go out charring, instead of doing the mother's duty at home. This is a matter in which the men are solely to blame. No man ought to marry until he is able to provide for a wife and family, by the sweat of his own brow or brain. In these days no sober and industrious man can find any difficulty in keeping a frugal wife and family in comfort and respectability. If the wife has to go out to work, the house and the children are neglected, the fireside is dirty and unattractive, and too often the poor wife is left amid her neglected children in the cold and dirty house, tired, weary, and possibly ailing, without a word of sympathy or a kindly look, while the husband seeks pleasure and companions elsewhere. It is such households as that which contribute to this appalling infant mortality. There, no insanitary conditions are needed to ensure the frequent visits of the dreaded spectre. The father, by a too early or an imprudent marriage, is the cause of all this misery. It is not such that I am here to address. *They* have lost the better part of their nature. *They* have no love either for God or their fellow-men, and have lost even their own self-respect. I am here to address men who have the natural feelings of a man, and who regard woman as man's helpmate, and not his slave ; who believe that the wife's place is to be at home, looking after the house and children, making all things clean and tidy, and awaiting the husband's return with joy and gladness. Still, even into such households as this disease and death will enter, for—

There is no flock, however watched and tended,  
But one dead lamb is there :  
There is no fireside howe'er defended,  
But has one vacant chair !

Nevertheless, by attention to certain plain directions, the visits of these dread monsters may be rendered less frequent ; and this brings us to the subject of our lecture, "Health, and how to preserve it."

Before proceeding further, I shall give you a short account of the structure of the human body.

(A) Skeleton.



The *Skeleton* is a complete framework of bones (A); the *Skull* is nicely balanced, and rests upon the *Spine*, which is a bony column, forming the back, and giving to the figure strength and upright posture.

The *Ribs* are rooted in the spine, and act as bars to keep the wonderful machinery within from injury.

In the thighs, legs, arms, and hands, bones, for purposes of strength, are well jointed into one another; or, where easy movement is required, they are fitted into sockets.

(B) Muscles of the Thigh.



Bands of flesh called *Muscles* (B), over-wrap the skeleton. These are either laid together, or pass between each other, and (being covered by the *Skin*) make up the fleshy form of man. The muscles give him power to use his limbs and move from place to place, and do his daily toil.

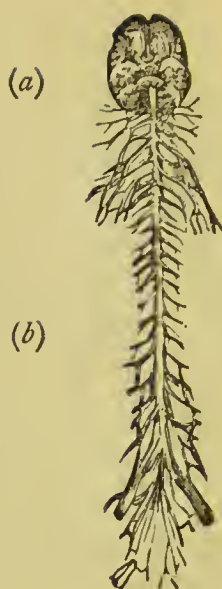
From the *Brain* (a, page 6), which lies within the *Skull*, and from the *Marrow of the Spine* (b), fine, fibre-like communications, called the *Nerves* (C), pass to every portion of the body. They act upon the *Muscles* and the *Limbs*, to move them as the will directs; or upon the brain, to tell what is passing in the world around; or they give the body pain or pleasure, as its doings may occasion.

The *Heart and Lungs* (D) are placed within the chest; and a little underneath them (E), are the *Liver* and the *Stomach*, with the *Bowels*, a long contorted tube.

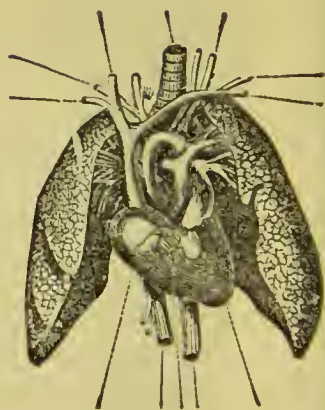
Food, when eaten, is changed within the *Stomach*, and, in its altered state, is passed into the *Bowels*. Here it is mixed with *Bile* or *Gall* (which is extracted in the *Liver* from the *Blood*), and then the refuse portion of the food is cast away. The remainder, which becomes the element of *Blood*, is carried by the *Veins* directly to the *Heart*, thence into the *Lungs*, and then throughout the body.

The *Heart* (D), which is a kind of double bag, beats with clock-like regularity; and, into one of its divisions or compartments, the *Veins* empty the new formed element of *Blood* just spoken of; carrying therewith such portion of the *Blood* as, having made a journey through the body, has lost its power to nourish. This fluid, the heart then throws into the *Lungs*; where, being acted on by *Air* (which is brought into the *Lungs at every breath*), and being purified, it obtains new vigour for its proper work. It passes now into the second division of the *Heart*; and thence, through tubes, called *Arteries*, to every portion of the body; giving nourishment and heat and health. This work performed, it flows again into the *Veins*, and thence into the *Heart*, to undergo anew the process just described.

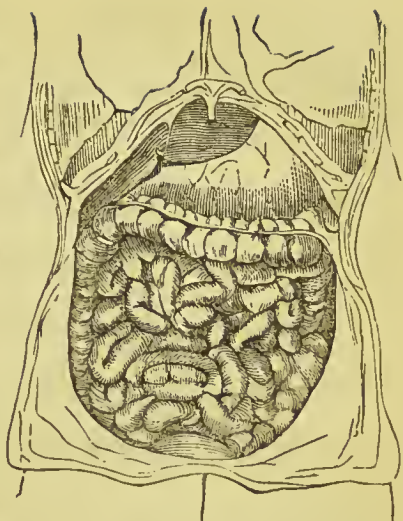
(C) *Brain and Spinal Cord.*



(D) *Heart and Lungs.*



Here it must be noticed that the Blood itself is always in a state of change. Its progress through the body renders it impure; and if the impurities be not removed, the consequence is suffering, disease, and death. Hence the Lungs *breathe out* a gas injurious to the Blood; and the *Liver*, the *Kidneys*, and the *Skin* (pierced with countless pores or holes), carry off the rest of its impurities.



(E) *Liver and Stomach.*

The health of that body with all its various processes, is in your keeping.

I hope you all know what health is. I have heard men say they don't know what it is to be ill. They never had a headache in their lives. Happy men! they are the pictures of health. In them, all the organs are just as they ought to be. There is enough of everything, and too much of nothing. A sound mind in a sound body, makes a healthy man. But the human body, or machine, is of so complicated a character, that very little puts it out of order; and, when it is out of order, it is not easily put right again. One cannot take it to pieces exactly, discover the deranged part, and put it right, or renew it if necessary, as the watchmaker can do a watch. No! doctors can do a great deal, and will in the future, be able to do much more; but we can never hope that they will be able to renew the stomach, the heart, or the brain. We have each one stomach, one heart, one brain, and with it we must be content. If we knowingly, or in ignorance injure any important organ of our body, we bring upon ourselves disease, and may never again know what it is to enjoy perfect health.

Health then, being such a boon, how are we to preserve it?

In the country, where we have pure air and little necessity for a complicated system of drainage, health is more easily preserved, than in the crowded street in the large town. In the country,

each is, to a great extent, independent of his neighbour, but in a town, one house cannot harbour disease without endangering those around it through the atmosphere, and those at a distance even, through a defective system of drainage.

'Thus to preserve health I would observe,

1. *THAT THE HOUSE YOU INHABIT MUST BE WELL BUILT, ON A GOOD PLAN, PROPERLY DRAINED, AND IN AS OPEN A SITUATION AS POSSIBLE, SO THAT THE AIR MAY CIRCULATE FREELY AROUND IT.*

If you can find such a house, you are, as far as possible in a town, independent of your neighbour. I fear it is too true that, as a rule, the houses occupied by the working classes are what are called "jerry" built. They are run up in a month or two. The drainage is considered a matter of no importance. They look pretty well, and as the demand is great, they are quickly let. But notice the result. Soon the tenant or his innocent child, through the thin damp walls (which allow heat and cold to affect their inmates almost as much as if they lived under canvas) catches cold: rheumatism, inflammation of the lungs, or some allied disease, is set up; and if he survives, it is to be an invalid for life. At a later period, through defective drainage, scarlet or typhoid fever breaks out, and the whole family is laid up. After a protracted illness, some die, and those that are left remain weak and feeble for many a day. The family, by the necessary expenses incurred during the illness, is left in debt, which cripples it for years. This is a melancholy picture, but it is not overdrawn. I have known such cases, and they are common.

These facts may then serve to impress upon you the necessity of choosing a proper house in which to dwell. If you, as working men, would not encourage the erection of such dangerous houses, by refusing to inhabit them, you might improve both the health and the morality of the community.

In looking out for a house the attention of the working man should be directed to the following rules:—

1. Not to take a house unless it is well built, with walls of a proper thickness.
2. Not to take a house on the bank of a sewer river, or near any standing water or offensive works.
3. Not to take a house without regard to the sufficiency of the size in respect to his family.
4. Not to take a house where the drains are not all well ventilated outside the house and well trapped inside, and where the landlord will not undertake to keep the drains free from bad smells.
5. Not to take a house which is blocked up at the back, and where a thorough draft cannot be made by opening doors and windows, both at front and back.
6. Not to take a house where any room is over a midden, ashpit, or privy, or where privies face the houses.
7. Not to take a house in a confined court or entry, and especially where there is in it an open midden, or ashpit, or where the privies are common to a number of houses.
8. Under no circumstances whatever to occupy a cellar, and always to seek for bedrooms in which there are fire places and windows that readily open at both top and bottom.

These rules were drawn up when the ashpit and privy were everywhere used, but now that there is some prospect of a better system being introduced, I would advise you to choose a house fitted with a dry earth closet, or something after the same principle.

All the rules, with one exception, are plain enough, and need no explanation.

About No 3, however, which warns you again taking a house, without regard to the sufficiency of the size, in respect to the family, I must explain.

A family cannot be kept in health unless due regard be had to the size of the rooms in which they are to live and sleep.

For this purpose the length, breadth, and height of every room should be measured; and if a man cannot do this himself, he should get a neighbour, who is able, to do it for him; and then its size (or, as it is sometimes called, its "contents," that is how many cubic feet of space it contains) may be known.

To learn the contents of a room &c., in cubic feet. Let us suppose a room is 10 feet long, 9 feet wide, and 7 feet high. To learn how many cubic feet of space it contains first multiply the length and breadth together (that is the 10 and 9) which gives 90. Then multiply 90 by the height (that is multiply 90 by 7), which gives 630. The 630 thus obtained is the number of cubic feet

of space which the room contains. When the size of a room is known in cubic feet it must be considered how many persons are to live, or sleep in it, in order to know how many cubic feet of space are given to each person.

No one will think that the health of an industrious working man and his family needs less care than that of a criminal in his prison cell.

Prison cells are now generally well warmed and ventilated ; and the number of cubic feet allowed each prisoner is between 830 and 900. If above 800 cubic feet of space are necessary for one prisoner, it would seem that a room which contains little more than 600 cubic feet is too small for a working man and his family. Let us suppose the room which contains 630 cubic feet to be slept in by three persons (a man, his wife, and one child), the 630 divided by three, will give only 210 cubic feet for each person. It is seldom possible for working men to hire houses or rooms, in which anything like the space allowed for prisoners can be afforded for themselves and families ; but where the space is reduced, the opportunities for good ventilation become the more necessary ; and if working men would measure their living and sleeping rooms in the way just described, and see how little space they allow for each member of their families, and how badly their small rooms are ventilated, they would cease to wonder at the fevers and sickness from which they so often suffer. Where they are living in rooms too small, overcrowded, or ill-ventilated, their wisest course is to look about in their neighbourhood or elsewhere, and see if they cannot find more healthful accommodation. They had better pay a little more rent if need be, than get themselves or their families laid on a sick-bed. If the working man cannot find a house to his mind, and is of provident habits, he may enter some respectable building society, and become in a short time, the owner of a house, built according to his own ideas and requirements.

Having thus given you a few hints as to choosing a proper house, I will suppose the working man has entered such a one, which his wife will keep scrupulously clean, for where dirt is, disease will soon be ; and now to preserve health I observe,

## 2. *THAT YOU MUST BE PROPERLY CLOTHED, AND ATTEND TO PERSONAL CLEANLINESS.*

The clothing preserves the warmth of the body, and defends it

from the changes of the weather. In such a climate as ours, where we have great and sudden changes in the temperature, improper clothing is one great cause of disease and suffering.

Every one who would enjoy health in this country, must wear flannel next to the skin from head to foot, thick in winter, and thinner in summer. By this precaution chills are prevented, which would inevitably take place if cotton were next to the skin. The upper clothing must be according to the means, and occupation of each.

During work every one perspires, and it has been calculated that the quantity of matter perspired by an ordinary sized man amounts to not less than between two and three pounds in 24 hours. This consists chiefly of water, but it is not all water. Every hundred parts contain about one part of solid matter. In this there are some salts, but it mainly consists of animal matter already in a partially decomposed or putrifying state. The sweat which comes out of those parts of the body not covered by the clothing dries up, leaving its solid matter on the skin, or in the pores. It is different with the parts of the body which are covered. The sweat given out from them is absorbed by the clothes, and its fluid portion, gradually passing off from their outer surface, leaves the solid matter in the substance of the clothing itself. But this is by no means all that the clothes get



*Magnified portion of the skin, showing oil glands.*

from the body. The skin gives out not only sweat, but an oily fluid, which is poured from innumerable little tubes, or out-lets, of what are called oil-glands: and it is this oil, which gives to a long unwashed face its peculiarly greasy appearance. There is yet a third source of uncleanness to the clothing. All of you must have remarked, if, in pulling off your stockings, you turn them inside out, that a cloud of fine dust falls from them. This dust consists of very small scales, and is the outer layer of the skin, called the scarf skin, or cuticle, which is continually scaling off.

Consequently, after you have worn any garment next to the skin for a certain time, you are carrying about with you in your clothes a quantity of animal matter, which is rapidly becoming putrid, and as such, constitutes the most disgusting and poisonous filth. Such clothing makes the wearers offensive to all with whom

they come in contact, unless it be to those whose habits have accustomed them to the sickening smell which it produces ; and it becomes also a cause of disease. The bad smell is a hint from nature of the presence of something injurious to health. The effluvia arising from the waste particles of the body, left in the clothes by the sweat, and oil-glands, even when they do not produce some of the diseases from which the working classes peculiarly suffer, greatly increase their liability to them, and give a malignant character to others which are usually mild and simple.



(A) Magnified view of the Itch Insect.

There is a disease of the skin, which, if not directly produced by dirt, is much favoured by its presence. It is called the Itch because of the troublesome irritation which it occasions, and consists in an eruption caused by an insect (A) so small that it cannot be seen except by the help of a magnifying glass. This little animal burrows in the scarf-skin, and there lays a number of eggs from which other insects are produced, and which increase in like manner, until the surface of the body, in parts preferred by the creature, is covered with the eruption thus produced.

It is not your body clothing only which is thus made unwholesome and disgusting by neglect. Most people perspire when asleep as well as when awake. Hence the bed-clothes get their full share of the animal matter contained in the sweat. This accounts in some measure for the almost overpowering smell of a room in which several persons have slept, and of which the windows and door have been kept closed.

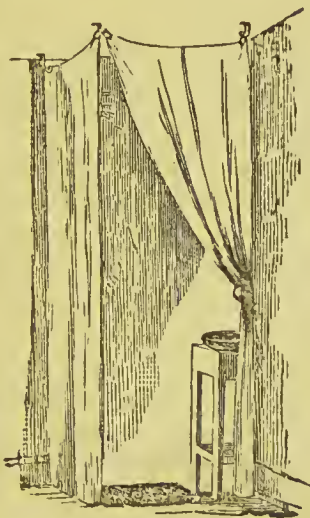
The practical conclusions to be drawn from all this, are :—

That the skin should be frequently washed all over :

Not merely the face and neck every morning ; but a warm bath, and a good wash with soap and water, should be secured at least every week. This is, I know, a difficulty with the working man, as few have baths in their houses, and public baths

are rare in this country. Public baths are, however, greatly needed, and if the working man fully appreciated the benefit to be derived from them, I cannot but think that they would soon become as common, as now they are rare. Where no baths can be had, you may make a corner of your bed-room serve for a bath-room in this way.

(B) Contrivance for a Bath in corner of a Cottage Room.



(B) Curtain off of a small space by hanging a piece of calico from a couple of hooks in the ceiling; or else cover a clothes-maiden, or something of the kind, with a sheet, or whatever will help to screen you from observation: behind this, have a large basin of clean water, soap, and a rough towel; and, as soon as you rise in the morning, wash yourselves thoroughly from head to foot (not sparing soap and water), and then rub yourselves dry with the towel, till you begin to be all in a glow. Five minutes will be quite enough for this, and you will find the time to be

exceedingly well spent. You can have no idea, unless you have tried, of the fresh, healthy feeling which this practice gives; of the cheerful spirit with which it will send you forth to your work; of the bracing effect which it has on the body, and of the way in which it lessens the liability to catch cold.

If, in some cases, you are unable thoroughly to carry out this practice when you rise in a morning (which is on many accounts the best time), then you may do it with advantage before you retire to rest at night.

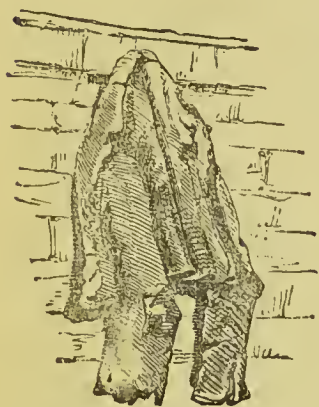
The first cost of the requisite articles need not be great, and the returns will soon prove it to be money wisely laid out. A very small portion indeed of what many of you now spend on quack medicines, and injurious drinks, would set you up at once with all that is necessary, and, instead of undermining your health and strength, be means of preserving them.

That clothing ought often to be changed, and that worn next the skin most frequently.

Some persons perspire more freely than others, and therefore

require more frequent changes. But certainly no article of clothing, whether linen, cotton, or woollen, ought to be worn next to the skin, at the utmost, more than a week, however frequently the skin may be washed.

**You ought not to sleep in clothes that are worn during the day,**



and as moisture and heat favour the decay of the animal matter left in the clothes by the sweat, on taking off the clothes they ought not to be folded together, but hung over the back of a chair, or on a rail, so as to become cool and dry before they are again worn. In like manner the bed-clothes ought, when you rise in the morning, to be turned down and left for some hours exposed to fresh air, let in at an open window.

Some of the motives which should lead you to attend to cleanliness of person and clothing have already been named. It will improve your health, and render you less liable to disease. It will make you more agreeable to those who live with you, as well as to your neighbours; and if a higher motive should be required, it may be regarded as a religious duty. In many passages in the Bible, physical purity is spoken of as in close connection with moral purity; and it is certain that no really good man will, if he can help it, be a man of dirty habits. You remember the saying, that "Cleanliness is next to godliness," but godliness is what may be called the chief end and aim of man. Judge, then, of what importance cleanliness must be to hold such a position amongst human duties.

Having now directed your attention to the necessity of living in a good house, and of being particular as to your clothing and personal cleanliness, with a view to preserving health, I observe

### ***3. THAT YOU MUST BE CAREFUL AS TO WHAT YOU EAT AND DRINK.***

That is, as to what you put into the stomach. You cannot be supposed to know much of the structure of your stomachs, or of any organ of your bodies, which are so "fearfully and wonderfully made." You do, however, understand a good deal about your

fires, which are intended to heat your houses. Now, it is sufficient for my present purpose, to compare the fire, (whether it be in the house to heat the family, or water in the boiler,) to the stomach.

You put coal on the fire ; as it burns heat is given off, warming the household, and keeping them comfortable ; or, in the case of the boiler, heating the water and making steam, which again does an immense deal of work through all sorts of complicated machinery.

It is exactly the same with your stomachs. What you put into the stomach is burned, or, as it is generally called, digested, during which process it not only gives out heat to the body, but also nourishment to the various tissues, strengthening the muscles for the work they have to perform. You will then at once see the importance of being careful as to what you put into the stomach ; for if you pile up your fire with bricks or stones it will not burn—you will neither get heat nor work out of it. So with the stomach. If you eat till the stomach is full of unsuitable food, you may no longer feel hungry, nevertheless you will really get no good from your meal, while you may be injured by it. Thus if you eat a quantity of indigestible material, the stomach will struggle to digest it. During this struggle you will have many uneasy sensations. At length the stomach, unable to make anything of it, passes it on to the intestines ; the intestines are irritated as by a foreign body, diarrhœa is set up, and who can tell how long the unfortunate individual may suffer through that single faulty meal. Instead of being heated he is rendered cold, and may even shiver ; instead of being strengthened by it he is greatly weakened, and unable for his work. He may require medical advice ; and thus, in a very simple way, he loses his health, his wage, and his money, which a little prudence might have saved him.

Again, if you put too many coals even on a fire, you may interfere with the proper current of air or draft, and your fire will be worse than if you had fewer coals, or it may go out altogether. So with the stomach ; if you eat too much of the most digestible food, its action is interfered with. It will probably reject some, making you sick, while it may pass another portion into the intestines undigested to injure them, and so the stomach and intestines being deranged, the general health will suffer.

Once more, you may put coals on your fire too often. Thus, before the last lot has properly burned up, you may add another supply. In this way you do not increase the quantity of heat

given out from your fire, but actually diminish it; and by a repetition of this treatment, the water in the boiler may get cold, the steam will consequently fail, and the machinery stop. Similarly with the stomach. If you add food to it before it has digested a previous meal, it becomes embarrassed, digestion is interfered with, and a frequent repetition of this treatment will so weaken the organ, that the general health will be impaired.

From these considerations, then, we may draw a few practical lessons.

1. To eat what is known to contain a proper amount of nourishment, or of those materials which the system requires.

But, you may ask, how are we to know the proper food to eat?

Well, those who have studied this subject tell us, that our system requires a certain quantity of carbon, and nitrogen to keep up the equilibrium of health. They tell us, that the healthy man requires 300 grains of nitrogen, and 4,600 grains of carbon daily, to supply the waste that takes place during the twenty-four hours. Such being the case, we must select a diet, which can supply as nearly as possible the necessary amount of each of those substances. It matters little whether it is vegetable, or animal, so that we get what is required. You know there are some people who call themselves Vegetarians, and live for the most part on vegetables; and there is no doubt, that a well-selected vegetable diet is capable of producing in the greater number of individuals the highest physical development of which they are capable. It would, however, I imagine, be difficult for the majority of working men to get such a diet of vegetables, as is necessary all the year round; so, as a general rule, most of us have a mixed diet, that is, partly vegetable and partly animal. A good proportion is to have one of animal, to four of vegetable. I fear very much that a great many men, and women too, of all classes, eat a great deal more animal food, in the shape of butchers' meat, than they have any need to do, or is good for them. I have known some families among the working classes, having butchers' meat three times a day, living in fact, mostly upon butchers' meat.

Let us endeavour to estimate the value of butchers' meat as an article of diet. 1,000 grains of it contain 100 grains of carbon and 300 of nitrogen. Therefore to obtain the 4,600 grains of carbon, which the system requires, no less than  $6\frac{1}{2}$  lb. of meat

must be consumed daily, whilst the requisite 300 grains of nitrogen are contained in  $1\frac{1}{2}$  lb. of meat; consequently, three or four times more meat must be consumed to supply the carbon, than is necessary to furnish the nitrogen. You will at once understand then, that a diet composed solely of butchers' meat, is a very bad one; because, if we eat enough to get the necessary amount of carbon, we have far too much nitrogen, and if we eat just enough to supply the nitrogen, we have far too little carbon.

As a contrast, let us examine the value of bread, as a food. 1,000 grains contain 300 grains of carbon, and 10 of nitrogen, hence to obtain the 300 grains of nitrogen required by the system, 30,000 grains, or more than four pounds of bread, must be consumed; but the 4,600 grains of carbon required, are contained in 15,000 grains of bread, so that to obtain the requisite supply of nitrogen, a quantity of bread must be consumed, containing exactly double the quantity of carbon required.

From these facts you may see the value and economy of a mixed diet, since by calculation we find that 2 lb. of bread, and  $\frac{3}{4}$  lb. of meat are sufficient to compensate the daily loss of the system in a healthy man.

Average beef or mutton is calculated to contain 15 per cent of carbonaceous and 20 per cent of nitrogenous material. Potatoes have 24 per cent carbonaceous, and two of nitrogenous, or 12 of carbon to 1 of nitrogen, or very nearly the proportion of 15 to 1, which we found the system required.

Oatmeal has 66 per cent of carbonaceous, and 16 of nitrogenous material, thus it has nearly as much nitrogenous matter as beef, and four times as much carbonaceous, and so, is a much better article of food than beef, taken alone, as regards the requirements of the system.

Skimmed milk contains about an equal quantity of carbonaceous and nitrogenous material.

Now beef may be said to be the common diet of England, as oatmeal is of Scotland, and potatoes are of Ireland. If three men were selected and fed, the first on beef, the second on oatmeal, and the third on potatoes, it would be found that he who had beef alone would not thrive so well as either of the other two.

When in Ireland during the August of this year I met, among the hills in the South, some fine specimens of big boned, strong, healthy young men, who told me that they lived upon potatoes and sour milk, all the year round. That was their food for breakfast, dinner, and supper—Sunday and Saturday. Anxious to know

what quantity of potatoes they could eat at one meal, I asked a young fellow of about twenty, how many he could eat. His reply was sharp and characteristic; he said "Sure, Sir, it would depend on their size."

However, bringing these considerations to our assistance in selecting a diet which will supply to the hardest working man all he wants, in a plain and inexpensive form, I would observe that taking a leaf from the book of each of the three parts of the kingdom, the Scotchman's fare with good milk and bread at breakfast and supper, and the Englishman and Irishman's fare united to form dinner, give a diet which both theoretically and practically, is about the best that can be devised for the inhabitants of these Islands. Nor I need not say that that is not the diet of either England, Scotland, or Ireland. Neither the Englishman nor the Irishman relish the Scotchman's porridge, whilst the beer of the Englishman is a comparative rarity both to the Scotchman and Irishman. It would seem, however, that Englishmen used to enjoy their porridge, as well as the Scotch, since the late Mr. Skaiffe, a Surgeon of Blackburn, when speaking of the increase of diseases, and especially of the decay of the teeth among factory operatives, said "What is the cause of this strange and injurious state of things? May not the change of diet be a powerful cause? When I say change, I mean from a milk to a tea diet." "Forty years ago the universal breakfast was milk and porridge." "Since then the population has doubled, and the milk farms have rather decreased. Now, the universal breakfast is tea or coffee." "tea being preferred." These are the observations of an aged surgeon, within whose lifetime many and great changes have occurred, and the change which he most deplored, which he deplored as a national calamity, viz., the deterioration of the race, he attributed to a faulty diet.

Tea and coffee contain no nourishment, and therefore are no foods; nevertheless they are too frequently employed to wash into the stomach, a quantity of dry bread. As beverages they are certainly pleasant to the taste, but they may be abused, and are as capable of injuring the health as beer, wine, or spirits.

## 2. Not to eat too much food.

Upon this head I need not enlarge, for you must at once see its importance. You eat, that you may live, and do not live to eat. The ancient Romans, at their feasts, ate for pleasure; and when the stomach was full, so that they could eat no more, they

would retire for a short time, and then return to eat with renewed vigour. During that absence, by the assistance of a feather, the stomach had been emptied to allow them the pleasure of eating to repletion once more. We do not follow that custom now-a-days, nevertheless I feel confident, that an emetic would in many cases be useful to relieve the stomach of an unnatural burden, which if not rejected, may cause indisposition. No one should eat to repletion, that is, till he can eat no more. Hunger depends on a particular state of the whole system. An empty stomach does not constitute hunger; neither does a full stomach ensure its absence; and so we ought to eat slowly, were it only to prevent our eating too much, because by eating slowly, the sense of hunger becomes relieved, and less food is found sufficient, than if we bolt a large quantity while the sense of hunger lasts. For this reason it is well to have companions at meals, since conversation or a good joke helps digestion much better than medicine. Our last lesson with regard to food is:—

### 3. Not to eat too often.

That “all work and no play makes Jack a dull boy,” we all admit; and it is equally true with regard to the stomach. It must also have rest. There is no doubt that habit, which is our second nature, can in the course of time accustom the stomach to very long fasts, nevertheless too frequent eating, and long fasts, are both to be deprecated. Three meals are quite sufficient for one day, if they be taken at regular intervals. The danger is, that we have too many, instead of too few, for we read that the Trappists have only one in the day, and they form an exceptionally healthy community.

We now come to drink, as regards the preservation of health. I am not here to give you a lecture on temperance or total abstinence principles, and so will be brief on this point also. It is a common, I may say the universal custom at the present day, to have something to drink with every meal, as if we could not do without it. As regards health, however, the less fluid we take with our meals the better. If we have no water, or other fluid, we must chew our food; and proper mastication is absolutely necessary to healthy digestion, because it is in the mouth, that the process of digestion is begun. If we do not chew our food properly, the mass feels dry, and we require some fluid to wash it down into the stomach. On the other hand, if we chew well, the mass becomes well mixed with saliva and the other

juices of the mouth, which act upon, and prepare it for the stomach. Thus there is really no necessity for drinking any fluid with meals, since nature has provided one; and his digestion will be best, who takes no fluid at all, except what his food, such as milk, soups, &c., contain. Avoid, then, large quantities of fluid, whether tea, coffee, beer, or water, at meal time.

As to the use of intoxicating liquors, all who wish to enjoy perfect health will avoid them. They are unnecessary in health, and in disease, require to be used with care by the physician. There can be no doubt, that a large proportion of disease is caused directly and indirectly, through the abuse of intoxicating drinks; and the relation between drink and crime, must be known to all of you. It therefore follows that in a lecture on "How to preserve health" I should warn you against the use of intoxicating liquors. Rather, as far as health goes, spend what money you can spare, in cultivating your minds, and acquiring knowledge, or in other words, on food for the mind; remembering that whatever work you have to perform, whether it be sweeping the streets, or the most difficult work of the mechanic, you will do it the better, the more education you can command.

And now to recapitulate. We began by deprecating *early or imprudent marriage as a great social evil*, certain to bring suffering and disease on its victims and, therefore, to be studiously avoided. We then described health, and in order to preserve it we found, *that the house you inhabit must be well built, on a good plan, properly drained, and in as good a situation as possible*. This is necessary that you may have pure air to breathe. Air enters the lungs with every breath to purify the blood, and when it comes out again it is entirely changed, and charged with an ingredient which, in a concentrated form, is a deadly poison to animal life, although it is upon this very ingredient that vegetables live. Man may as well hope to satisfy his stomach with the refuse of his food, as his lungs with air that has been already breathed. That is the reason why I entered into such particulars as to cubic feet, and ventilation; since it is by having plenty of space in which to breathe and by having good ventilation, so that what has been already breathed, may be replaced by fresh air, that we hope in a great measure, besides fevers, to avoid those diseases of the lungs, which are known under the general name of consumption, and which annually hurry to an untimely grave so many from your midst.

We next considered *the necessity for proper clothing and personal*

*cleanliness*; and I would like further to impress upon parents the necessity of carefully clothing the younger members of the household. How frequently do we see infants with bare heads, necks, arms, and legs, being carried about the streets or sitting on the cold flags. It would seem from the way in which they are treated that the younger the child the less clothing is required. There never was a greater mistake; and if children were better cared for and clad during the first twelve months of their existence, they would make stronger and better men and women than are growing up around us. If it is necessary for an adult to have flannel all over next to the skin, it is much more necessary for an infant; and, therefore let me put in a word of earnest appeal on behalf of the child, while it is yet unable to lisp its wants, that it may have its legs, arms, and neck covered from the winds of summer, and the biting frosts of winter.

Last of all, I gave you a few hints as to *food and drink*.

In all that I have said I have been speaking of the working man at home and in his family; still much might be said with regard to the preservation of his health while following his daily employment. But there are so many different occupations, that it would trespass too much on your patience to enter upon any consideration of them individually. I would therefore merely add, that those who are engaged in manual labour in the open air, have as much exercise and fresh air as they require, and may with advantage rest in the house at night; whereas those who follow sedentary occupations, or work in closed rooms, ought to make a practice of daily taking a walk in the purest air they can find, to exercise both their limbs and their lungs.

In conclusion, let me impress upon you the importance of attending to your health while you are well, for how few of us value health until we lose it; and let me urge you to remember the points to which I have directed your attention; and though they are simple and common-place, and probably old to many of you, and though I have revealed to you no elixir of health, do not, therefore, disregard them, but take a warning from the conduct of Naaman of old, as graphically described in the following verses:—

## II. KINGS, V. CHAP.

9. So Naaman came with his horses and with his chariot, and stood at the door of the house of Elisha.

10. And Elisha sent a messenger unto him, saying, Go and wash in Jordan seven times, and thy flesh shall come again to thee, and thou shalt be clean.

11. But Naaman was wroth, and went away and said, behold I thought he will surely come out to me, and stand and call on the name of the Lord his God, and strike his hand over the place and recover the leper.

12. Are not Abana and Pharpar rivers of Damascus better than all the waters of Israel? May I not wash in them and be clean? So he turned and went away in a rage.

13. And his servants came near and spake unto him and said, My father, if the prophet had bid thee do some great thing wouldst thou not have done it? how much rather then when he saith to thee wash and be clean.

14. Then went he down and dipped himself seven times in Jordan, according to the saying of the man of God, and his flesh came again like unto the flesh of a little child, and he was clean.